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RURAL ELECTRIFICATION ADMINISTRATION

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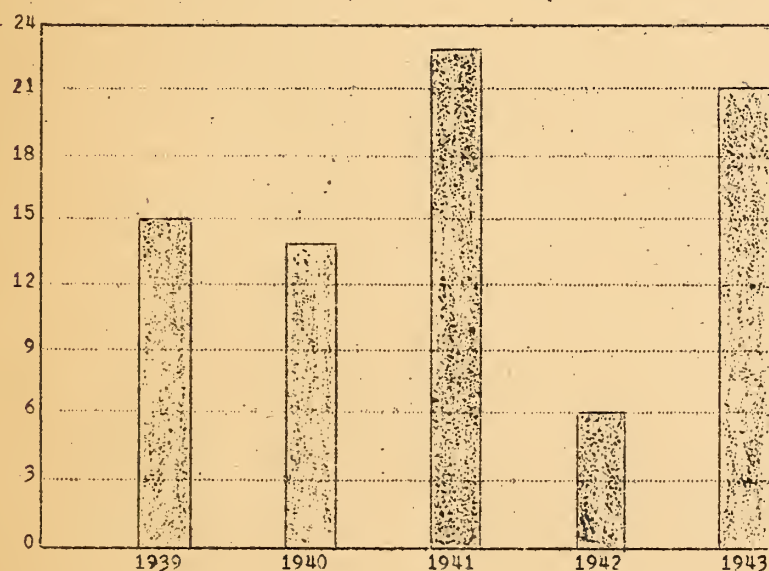
St. Louis, Mo.

REVIEW OF 1943 FATALITIES

In the June, 1943 issue of the REA Lineman, three deaths were publicized, breaking a six-month-old no-fatality record. Actually, four fatalities occurred last May, but one was not so promptly reported.

After that, our safety record went from bad to worse. Three more deaths occurred and were reported to us in June; three more deaths in July; two more deaths in August; two more deaths in September; another death in October; another death in November; then to top it off, five more deaths were reported in December, two of which occurred the latter part of November. A total of twenty-one accidental deaths among system employees at work made 1943 our worst year in safety history, with the exception of 1941 when the death toll was twenty-three.

We thought safety had hit its stride in 1942 when only six fatalities occurred, but we were far too optimistic. It seems now that 1942 was an unusually good year and that 1943 is somewhat worse than normal. The accompanying chart shows the comparison by years.



FATAL ACCIDENTS REA SYSTEM EMPLOYEES

However, the picture is distorted and to gain a better perspective we must remember that REA has grown. More miles of line have been built and energized; more workers are required to service the

(See Review Page 4)

CHARLES YOUTZY HONORED

Charles Youtzy, lineman for Jo-Carroll Electric Cooperative, was awarded the President's medal, a National Safety Council honor plaque, yesterday afternoon in a surprise ceremony at the cooperative's annual meeting in Lincoln School Auditorium, Savanna.

Mr. Youtzy merited the award by his quick thinking and presence of mind in using artificial respiration to revive Raymond Hutchison early last July, after Mr. Hutchison had fallen to the ground from a power pole when his back came in contact with a live fuse. Immediate application of artificial respiration is believed to have been a major factor in saving Mr. Hutchison's life.

The medal was presented to Mr. Youtzy by Floyd I. Rubie, Manager of the cooperative.

(From Weekly News)
(Elizabeth, Illinois)
(December 8, 1944)

Plans for the Second National REA Safety and Job Training Supervisors' Conference, to have been held last fall, failed to materialize. A spring date, April or May, is being tentatively considered; and now is the time to express your desires on preferred dates and also on problems requiring attention. It's to be your conference. please help make it worthwhile.

Published monthly in the interest of Safety
for Employees of REA Systems

David A. Fleming, Editor

REA RECOMMENDATIONS ARE BASED ON YOUR EXPERIENCE

From your reports of accidents, analyses are made. From the facts at hand REA determines the types of accidents which occur most frequently and those types which usually result in the most severe injuries. The analyses indicate the outstanding problems; that is, those types which cost most in suffering and resources and toward which prompt, primary attention should be directed.

The most important problem on REA systems is still electric shock. This, of course, is to be expected; more than three-fourths of the fatalities in the electric light and power industry result from electric shock. Even though the proportion was less for REA systems last year, electric shock was the outstanding cause of deaths.

In years past you heard that the use of protective grounds or rubber gloves would prevent most of the electric shock fatalities. And so it goes again. Half of the 1943 electric shock fatalities occurred for lack of protective grounds. One victim opened the wrong switch (see Discussion case); one got on a line fed from both ends; one had the line thrown in on him; one "assumed" a helper had de-energized the line; one "thought" the fuse had blown; one didn't know of a phase transposition; one was certain the switch he'd opened controlled the line. All "thought" the line was dead; all were mistaken. On your next "dead" job, put up a PROTECTIVE GROUND and be sure. You'll be safe too.

Hand burns still take a toll of lives. While reaching around a pole, a hot lead is touched; a foreman gets too close; a jumper, being reconnected, swings into hands on stick. Wear RUBBER GLOVES from the ground up to avoid shock from those unintentional contacts.

Of the remaining electric shock fatalities it becomes evident that another recommendation is in order. Too many linemen go higher than necessary to perform their work. Maybe it is more difficult to work from a little farther away but it's much safer.

Therefore, if you linemen would live to a ripe old age, remember these three things: protective grounds, rubber gloves and working positions. Your life depends upon them.

There were other hazards to which other employees were also exposed. Falls, falling objects, physical defects and drowning accounted for a third of the 1943 fatalities. Deaths from falling objects and drowning can be avoided by properly planning your work and following your plan. Those resulting from physical defects must be left to competent medical authority; require examinations.

REA recommendations are based on real-people experience; they did these things with no more intention of doing them than you have. What they did is illustrative of what you might do if you do not accept the lessons which these accidents teach.

Reports received in January:

1. While cutting timber along right-of-way, a superintendent's axe glanced and cut a 3-inch gash in foot. 5 days lost.

2. A casing plug blew out permitting hot water to escape and drench a plant mechanic who was inspecting the pump. First degree burns were incurred; the victim was scalded, losing 20 days.

3. A two-wheel trailer, blocked in front and rear, was to be hitched to a truck. The trailer was raised by placing a 4 x 4 underneath. One block slipped, causing trailer to tip and the 4 x 4 fell on a lineman's foot, fracturing the tips of three toes.

4. A part-time employee was felling a tree which fell on him and caused his death.

5. Two linemen were carrying a transformer from truck across deep snow for installation. One stepped through the snow taking all the weight of the transformer. His back was wrenched, dislocating vertebra. 15 days lost time was estimated.

6. A pine tree had fallen across line at midpoint of span taking both wires almost to the ground without breaking either one. The manager-lineman cut the top free close to the wires where the tree was about 6 inches in diameter. The assistant's saw bound, due to upward strain of the line, as he tried cutting about 8 feet nearer the tree butt, where the tree was about 8 inches in diameter. As the manager was cutting a scarf at the bound saw, on side farther from wire, the tree broke. The 8 foot section was thrown and struck

(Continued on next page)

the manager over the right eye, near bridge of nose, fracturing his skull. 60 days was estimated as probable time loss.

7. While lifting to load poles on trailer, an employee's rib was torn loose. Time loss was estimated at 10 days.

8. A lineman was sagging wire on a 59 degree, A-3 pole structure and the guy broke at point of pole attachment. Then the pole snapped, moving suddenly in direction of strain, which jerked the lineman and dislocated his shoulder. His climbers cut out and he slid down the pole which remained standing though badly splintered. About 30 days loss of time resulted.

9. After 3½ months, an employee was classified as a Class B lineman because of his quick adaptability and assigned to collection and meter disconnection. Upon instigation of a member to investigate a transformer for radio interference, he climbed the pole without hot stick or rubber gloves. Evidence indicated he held to the neutral with right hand and touched the hot lead just above pushing with left hand. His safety caught on the ground molding from which he was then promptly removed by another co-op employee. Artificial respiration was applied for about 5 minutes until the victim began turning black around lips and nose and then he was rushed to a hospital. He did not recover.

10. A pole became dislodged and fell from a truck which was being loaded. A lineman, working near truck, was struck on hip and leg. His right leg was broken.

11. While dismantling a line, a cross-arm fell from top of pole, hitting employee on back, causing severe bruises.

REPORT:

A serviceman, who had worked for the cooperative for about 6 years, went out to replace a 1½ KVA transformer with a 3 KVA, accompanied by another who acted as helper. The serviceman drove about a mile and opened a cutout, assuming it de-energized the line, came back and climbed the pole. The helper was fastening ground sticks to the hand line when he heard a noise and looked up. The serviceman was lying limp. Since his safety was over the lower service wire, he did not drop. The helper immediately went up and lowered him. With the assistance of a farmer, who was present, artificial respiration was begun and a call sent for a respirator. Artificial respiration was continued for 3 hours until the doctor pronounced him beyond recovery.

Investigation revealed that the serviceman had mistakenly opened a wrong switch and, therefore, had not de-energized the line. Then as he waited for the ground sticks, he had touched the transformer bushing with his right hand as evidenced by burned fingertips. A badly burned left hand indicated that he had hold of the neutral wire. Although he was provided with rubber gloves, he did not have them on.

DISCUSSION:

Anyone may make a mistake. You may think, "I wouldn't have opened the wrong switch," but the victim probably thought the very same thing. Be humble in your opinions and remember that some things are not what they seem. One can be certain a line is de-energized only after protective grounds are in place and can be so observed. Until the grounds are installed, be aware of your position; stay well in the clear of any equipment which is normally hot. Wear your rubber gloves provided for your safety until it is certain that the work area is de-energized.

ACTION:

Draw up standard job procedures in your safety meetings. Consider all safety key-points and incorporate those in your procedure. Do not deviate nor permit others to deviate from your planned safe way.

The major considerations for prevention of electric shock in replacing a transformer by the de-energization procedure are:

1. Open correct disconnect.
 - a. Know your system. Perhaps a map indicating pole numbers may be necessary.
2. Install protective grounds within sight of work area. You can then warn any person against their removal or get yourself in the clear.
 - a. Use an 8-foot hot stick to install grounds. In practically all cases, sufficient clearance can be maintained so that it will be impossible to touch the normally hot circuits.
 - b. Wear rubber gloves as protection against inadvertent contact while opening line, installing and removing protective grounds, and while re-closing line.

The victim had not returned to work after loss of 4 days.

12. A lineman was replacing a telephone service wire which had been removed to string an

REA line. The pole broke and the lineman fell about 20 feet, incurring a fracture in back. Disability will probably be temporary only.

AROUND THE STATES WITH SAFETY AND JOB TRAINING

REVIEW (Cont'd. from Page 1)

Texas is still doing a good job, with Head Instructor Ed Nauert and instructors D. L. Pierce and E. S. Reynolds.

Oklahoma is now fully functioning with Supervisor Joe Billingsley. They publish "Safety—News—Flashes" and all is going well.

Iowa has a new supervisor in E. F. Ehlers. He's a swell guy and success is predicted.

Wisconsin, too, has a new supervisor—H. C. Potthast. He intends the use of projection equipment to help put his story over.

Michigan still has Supervisor L. C. Meyer. Not a single disability was experienced in 1943—a perfect record.

Ohio will soon lose Supervisor Dean Horsewood to the armed forces and is interested in qualified applicants.

Kentucky keeps Supervisor L. A. Ehmsen busy on a successful program. The "Kentucky Safety Bulletin" is published monthly.

Alabama gets under way with W. L. DeV Vaughan as Supervisor. He has a splendid record of accident prevention and successful progress is indicated.

Tennessee, too, is beginning with C. G. Alexander as Supervisor. His record of accident prevention is also good and success is expected.

Mississippi again gets under way with C. E. Stovall as Supervisor. His record, like those above insures successful progress.

Illinois, it is reported, has employed a new Supervisor named Kirkpatrick. He is said to be most competent.

North Carolina is negotiating with the State Board of Vocational Education regarding

lines, more employees are exposed to work hazards; more accidents and more fatalities is but a logical expectation. A basis of frequency is required.

Perhaps the number of energized miles is not the best basis, but it has been readily available and is quite suitable for gauging progress. Using figures as of June 30 and corresponding annual fatalities, we calculate "fatalities per 10,000 miles of energized line" with results as shown in the following table.

YEAR	MILES OF LINE ENERGIZED	FATALITIES	FATALS PER 10,000 MILES
1939	115,230	15	13.0
1940	232,978	14	6.0
1941	307,769	23	7.5
1942	369,129	6	1.6
1943	381,747	21	5.5

Thus it is apparent that 1943 was not so bad as the bald figures indicate. 1942 marked the establishment of a goal which shows what is possible of attainment by conscientious and co-operative effort.

Fatality experience during 1943 might be termed rather unusual, too. Previously, about one out of every three electric shock accidents resulted in death of the victim. In 1943, the proportion increased to nearly one out of two. The percentage of BURNS ON HANDS decreased, less than 60 percent of electric shock fatalities falling in this category. There was an increased percentage of "other than electric shock" deaths; never before had this accounted for one-third of the total.

For an alibi, it may seem likely to choose inexperience of employees, but such argument has no foundation. In fact, the very reverse is true; the great majority of the men killed had many years of experience. Only three at the most of the twenty-one can be attributed to lack of experience and in those it need not be considered the decisive factor.

It is significant that only two fatalities occurred on systems participating in active Safety and Job Training Programs. Even one of those occurred after the supervisor in the state had resigned to take other employment. Safety depends upon a well-conceived and efficiently executed plan of action.

employment of a qualified man as supervisor.

Louisiana has been on the lookout for a supervisor for some time.

TWO FATALITIES
IN JANUARY